

**FACT SHEET AND STATEMENT OF BASIS  
MORTON SALT DIVISION OF MORTON INTERNATIONAL, INC.  
UPDES PERMIT No. UT0000523  
RENEWAL PERMIT FOR MINOR INDUSTRIAL FACILITY**

**FACILITY CONTACTS**

Responsible Official: Mr. Keith Morgan, Facility Manager  
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(801) 250-6335

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**DESCRIPTION OF FACILITY**

Morton Salt Division of Morton International, Inc. (Morton) Grantsville facility precipitates, harvests, washes, dries, sizes, packages, and ships salt. Water from the Great Salt Lake is utilized during several steps of Morton's production process.

- 1) Precipitation: Lake water is pumped into solar evaporation basins. Once a sufficient quantity of salt has precipitated it is mechanically harvested. Concentrated brine (bitterns), is produced during this step.
- 2) Washing: Once harvested, the salt is washed with salt water from the Great Salt Lake.
- 3) Packaging: Morton produces salt blocks to which micronutrients such as cobalt, cadmium, and chromium are added. In order to prevent these micronutrients from being added to the lake, Morton has installed a bag house and dust collection system.

One production well on the property, known as Timpie Springs (3-5% salt concentration), is used for fire control. Drinking water is hauled from Grantsville, and wastewater is disposed of in a septic tank/leaching field.

**DESCRIPTION OF DISCHARGE**

The facility utilizes one discharge point, designated as outfall # 001, located at 40° 45' 7" N latitude and 112° 30' 0" W longitude. All water used at Morton is returned to the lake via outfall # 001.

**RECEIVING WATER CLASSIFICATION**

The receiving water is the Gilbert Bay of Great Salt Lake, a class 5a water-body. Class 5a waters are protected for primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain.

### **BASIS FOR EFFLUENT LIMITATIONS**

No numeric water quality standards have been established for the Great Salt Lake with the exception of Selenium. As such, the regulations that apply to Morton's effluent are the *Code of Federal Regulations (CFR) Title 40, 436.120 (Subpart L - Salines from Brine Lakes Subcategory)* and *40 CFR 415.160 (Subpart P - Sodium Chloride Production Subcategory)*. These regulations pertain to the production of sodium chloride via solar evaporation and establish effluent limits and standards. Under the regulations, no process wastewater pollutants may be discharged into navigable waters; however, unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn. In *40 CFR 436*, the “no discharge of process waste water pollutants into navigable waters” shall be applied on a net basis if the discharge complies with *125.28* of that chapter. In *40 CFR 415.160*, bitterns can be returned to the body of water from which the process brine solution was originally withdrawn provided no additional pollutants are added to the bitterns during the production of sodium chloride. *40 CFR 415.160* is more stringent and will apply to Morton; i.e., Morton will be allowed to discharge their concentrated bitterns back to the Great Salt Lake, provided no additional pollutants are added during the production of sodium chloride.

Based on *UAC R317-1-3.2C*, pH must remain in the range of 6.5 to 9.0 standard units. Because oil and grease sources are present in the processing and shipping areas, the potential exists for their addition to process water. Thus, oil and grease concentrations will be limited to 10 mg/L (based on best professional judgment [BPJ]).

### **SUMMARY OF EFFLUENT LIMITATIONS:**

Parameter	Effluent Limitations		
	30 Day Average	Daily Minimum	Daily Maximum
Flow	Report	NA	Report
Oil & Grease, mg/L	NA	NA	10.0
pH, Standard Units	NA	6.5	9.0

NA – Not Applicable

Self-Monitoring and Reporting Requirements a/ b/ c/			
Parameter	Frequency	Sample Type	Units
Total Flow d/ e/	Daily	Measured	MGD
Oil & Grease f/	Monthly	Visual/Grab	mg/L
pH	Monthly	Grab	SU

- a/ This discharge shall contain only materials originally present in the Great Salt Lake waters or other intake waters. The permittee shall add nothing to the effluent prior to discharging.
- b/ There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
- c/ There shall be no discharge of sanitary wastes.
- d/ Flow measurements shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- e/ If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- f/ A sample for oil & grease shall be taken if a visual sheen is observed. If a sample is taken because a sheen is observed, it shall not exceed a daily maximum concentration of 10 mg/L.

#### **WHOLE EFFLUENT TOXICITY (WET) TESTING REQUIREMENTS**

A nationwide effort to control discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah's *Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring)*, February 15, 1991, which outlines guidance to be used by Utah Division of Water Quality staff and by permittees for implementation through the UPDES discharge permit program. Authority to require effluent biomonitoring is provided in *Permit Conditions*, UAC R317-8-4.2, *Permit Provisions*, UAC R317-8-5.3 and *Water Quality Standards*, UAC R317-2-5 and R317 -2-7.2.

Morton is a minor industrial facility that discharges bitterns taken directly from the Great Salt Lake, in which no chemicals or other pollutants are introduced, thus returning any residual

materials back to either the Great Salt Lake or to a nearby industrial facility for further processing as previously described. The Great Salt Lake is a unique inland and highly saline environment. The naturally high Total Dissolved Solids (TDS) concentrations in the receiving waters of the Great Salt Lake, would likely inhibit successful completion of any type of Whole Effluent Toxicity (WET) testing. Upon further evaluation, the existing concentrations of sodium, potassium and bicarbonate ions in the receiving waters would likely prohibit utilizing an approved marine organism, such as *mysidopsis bahia*, in any WET testing, as these concentrations are up to ten times higher than seawater.

Based upon these facts, the permitting authority's BPJ, and that the anticipated discharges are of relatively small volumes of effluent when compared to the existing water body of the Great Salt Lake, there is no reasonable potential for toxicity in Morton's discharge (per *State of Utah Permitting and Enforcement Guidance Document for WET Control*). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge

### **STORM WATER REQUIREMENTS**

Because this is an industrial facility that routinely performs activities requiring a permit for storm water discharge, storm water permit coverage requirements were included in this permit. Morton Salt is currently covered under the UPDES Multi Sector General Permit for Industrial Activities Group IV, Sector C, permit number UTR000479. Upon issuance of this permit, coverage for storm water discharges will be contained in this renewal permit.

### **SIGNIFICANT CHANGES FROM THE PREVIOUS PERMIT**

Flow monitoring requirements have gone from monthly to daily. This was done to get more accurate flow data and reflects the facilities standard operating procedures.

Stormwater requirements found under UPDES Multi Sector General Permit for Industrial Activities Group IV, Sector C are being included in this permit. The existing coverage under UTR000479 will be terminated upon issuance of this permit.

### **PRETREATMENT REQUIREMENTS**

There will be no discharge of any process water or by-product to the sanitary sewer. Any wastewater conveyed to a public sanitary sewer is subject to federal, state and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, Morton shall comply with all applicable federal pretreatment regulations promulgated in 40 CFR section 403, the State pretreatment requirements found in UAC R317-8-8 and any specific local regulations developed by the wastewater treatment plant.

**PERMIT DURATION**

It is recommended that this permit be effective for duration of five (5) years.

**Statement of Basis and Permit**

Drafted by Lonnie Shull  
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Utah Division of Water Quality  
Drafted October 14, 2009  
Revised October 27, 2009

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